

WHAT IS CLAIMED IS:

1 1. A method of providing error detection and correction of transmission
2 of data units between a sending and a receiving agent connected together in a network or
3 computer interconnect environment, the data units having a predetermined size, a control
4 portion and an information portion, the method comprising:

5 inserting an expected sequence identifier in each data unit;
6 examining the sequence identifiers of the data units to determine the
7 sequence of data units being received by the receiving agent; and,
8 requesting the sending agent to resend a data unit for which it is determined
9 that the sequence identifier is incorrect.

2 2. A method as defined in claim 1 wherein said predetermined size is
within the range of about 64 to about 256 bits.

3 3. A method as defined in claim 2 wherein said predetermined size is
about 128 bits.

4 4. A method as defined in claim 1 wherein said sequence identifier is a
number that is changed in a predictable manner for each successive unit.

1 5. A method as defined in claim 1 wherein said number incremented by
2 a known value for each successive unit.

1 6. A method as defined in claim 1 wherein said sequence identifier is
2 inserted in the control portion of the data unit.

1 7. A method as defined in claim 1 further comprising retaining a
2 replica of each data unit for a period of time necessary for said examining step to
3 determine that the sequence identifier for a transmitted data unit is correct and discarding
4 said replica when said sequence identifier for the transmitted data unit is correct.

1 8. A method of providing error detection and correction of transmission
2 of data packets comprising at least two flits between sending and receiving agents

3 connected together in a network or computer interconnect environment, the flits being of
4 a predetermined size and having a control portion and an information portion, the method
5 comprising:

6 embedding a sequence identifier in each flit prior to transmission by a
7 sending agent;

8 sending each flit to a connected receiving agent;

9 examining the sequence identifiers of each flit to determine the sequence of
10 flits being received by the receiving agent; and,

11 requesting the sending agent to resend a flit for which the sequence
12 identifier is determined to be incorrect.

13 9. A method as defined in claim 8 further comprising the step of
14 holding a copy of each flit for a period of time necessary for said examining step to
15 determine that the sequence identifier for a transmitted flit is correct and discarding said
16 copy when said sequence identifier for the transmitted flit is correct.

17 10. A method as defined in claim 8 wherein said predetermined size is
18 within the range of about 64 to about 256 bits.

19 11. A method as defined in claim 10 wherein said predetermined size is
20 about 128 bits.

21 12. A method as defined in claim 8 wherein said sequence identifier is a
22 number that is changed in a predictable manner for each successive unit.

23 13. A method as defined in claim 8 wherein said number incremented by
24 a known value for each successive unit.

25 14. A method for providing error detection and correction of
26 transmission of data units between sending and receiving agents connected in a network

3 or computer interconnect environment, the data units being of a predetermined size and
 4 having a control portion and an information portion, the method comprising:

5 the sending agent inserting a sequence identifier in each data unit;
 6 the sending agent sending the data unit to the receiving unit;
 7 the sending agent retaining a replica of the data unit in a memory;
 8 the receiving agent examining the sequence identifiers of each data unit to
 9 determine the sequence of data units being received by the receiving agent;
 10 the receiving agent requesting the sending agent to resend a data unit for
 11 which the receiving agent determined the sequence identifier to be incorrect.

12 15. A method as defined in claim 14 wherein said sequence identifier is
 inserted in the control portion of the data unit.

16. A method as defined in claim 14 wherein said predetermined size is
 about 128 bits.

17. A system for providing error detection and correction of
 transmission of data units in a network or computer interconnect environment, the data
 units being of a predetermined size and having a control portion and an information
 portion, the system comprising:

a sending agent for inserting a sequence identifier in each data unit to be
 sent, the sending agent retaining a replica of the data unit in a memory;

said sending agent sending the data unit to the receiving unit;

a receiving agent for receiving each data unit, the receiving unit examining
 the sequence identifiers of each data unit to determine the sequence of data units being
 received thereby;

said receiving agent requesting said sending agent to resend a data unit for
 which said receiving agent has determined the sequence identifier to be incorrect.

- 1 18. A system as defined in claim 17 wherein said predetermined size is
2 about 128 bits.
- 1 19. A system as defined in claim 17 wherein said sequence identifier is
2 inserted in the control portion of the data unit.

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